COLORADO RIVER RECOVERY PROGRAM Project No: C-20
FY-2004-2005 PROPOSED SCOPE-OF-WORK for:
(Highline net O&M)

Note: Annual reports only.

Note: Net will be replaced in 2005 at a cost of $100K.

Lead Agency: Colorado Division of Parks and Outdoor Recreation
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Category:
_x_ Ongoing project
___ Ongoing-revised project
___ Requested new project
___ Unsolicited proposal

Expected Funding Source:
___ Annual funds
_x_ Capital funds
_x_ Other (O&M funds)

I. Title of Proposal: Operation and maintenance of the Highline Lake fish barrier net

II. Relationship to RIPRAP:

Colorado River Action Plan: Mainstem
III. Reduce negative impacts of nonnative fishes and sportfish management.
III.B.1.a. Operate and maintain Highline Reservoir net.

III. Study Background/Rationale:

Screening the Highline Reservoir outflow is recommended to reduce or eliminate continuous introduction of nonnative fishes into the Colorado River mainstem from this source. A net-type fish barrier is in place in the spillway approach of Highline Lake, near Fruita, Colorado. The net consists of 1/4" nominal opening polyester mesh. The net is being installed as an experiment to evaluate the effectiveness of constructing and operating such fish barriers. To establish the effectiveness and potential acceptability of such fish barriers, the Highline Lake fish barrier must be evaluated for: 1) ability to prevent escapement of all life stages of target species to be contained in the reservoir, 2) ease of maintenance and routine cleaning, 3) ease of removal and re-installation for protection from ice damage, 4) potential to leave in place during ice cover on lake, and 5) longevity and annual operational costs.

IV. Study Goals, Objectives, End Product:

Goal/Objective: Operate and maintain the Highline Lake fish barrier and contribute to the evaluation of the effectiveness and feasibility of this type of net barrier to reduce or eliminate nonnative fish escapement.

End Product: Operation and maintenance of the fish barrier for FY 2004–2005

V. Study Area: Highline Lake State Park, Loma, Colorado.

VI. Study Methods/Approach:

The State of Colorado, Division of Parks and Outdoor Recreation (DPOR) operates Highline Reservoir and proposes to operate and maintain the fish barrier for FY 04–05 through a MOU with the Colorado Division of Wildlife (CDOW).

VII. Task Description and Schedule:

Task 1. Maintain Protective Buoy Line: To protect the net from encroachment by errant boating traffic, a solid buoy line with floats along the entire length and with large floating signs that state - **Boats Keep Out** (in large letters) was installed. DPOR will continue to maintain the buoy line and floating signs. The floats and floating signs are still in good condition and we do not anticipate the removal of them when the new net is installed.

Task 2. Net Cleaning and Repair Operations (in water): We will continue routine cleaning operations utilizing our barge and hydraulic cleaning from the surface. Work will occur in early April immediately prior to the water coming into the lake, and in late August/early September prior to the high flows through the lake.

Task 3. Weekly visual survey—We propose to visually survey the net and buoy line on regular weekly intervals to determine the condition of the net and take appropriate action to successfully contain any problems that arise. If the issue is near the surface, we will attempt repair with on-site personnel using repair supplies on-site. Should repair become necessary, we will attempt repairs as soon as possible.

Task 4. Underwater Survey— Twice annually, after April and August net cleaning, we propose to have local divers examine the net for debris, tears, or other maintenance needs. Small net tears will be repaired underwater with supplies on-site. The condition of the net and environs will be determined through videotaping by divers.

Task 5. Continue to evaluate the most effective manner to properly deploy the fish net skirt – the use of 1" PVC pipe notched at each end appears to be an excellent solution.

Task 6. Coordinate the net replacement project scheduled for Federal Fiscal Year 2004 or 2005 with CDOW and FWS.

Task 7. Continue to evaluate the siltation issue on the west end of the net – heavy loads of sand and gravel continue to be deposited on the net as wave action pushes the material down the shoreline. We will move the jetty to the south to provide additional capacity for the debris to be deposited without impacting the net.

VIII. FY-2004 Work:

Note: Net replacement will occur in 2005.

Deliverables/Due Dates:

Install, operate, and maintain the fish barrier as described above.
An annual report will be submitted to Pat Nelson by November 14, 2003.

Budget estimate:

Task 1. Maintain protective buoy line.

No costs anticipated for routine maintenance. If boats run into buoy line, however, costs may be incurred.

Task 2. Net cleaning and repair.

Labor (2 weeks at $425/week)	$ 850
Barge maintenance (gas, oil, repairs)	$ 320
Beaver control to prevent damage to net	$ 150

Task 3. Weekly visual survey.

No charge. Provided by lake managers.

Task 4. Underwater survey/videotaping

Labor (2 inspections x 2 divers at $77.50/hour/diver x 4 hours/inspection)	$1,240

Task 5. Deploy and maintain fish net skirt.

Labor ($77 per deployment x 5 deployments)	$ 385
Materials	$ 75

Task 6. Net replacement support/coordination.

No charge at this time unless effort becomes costly/labor intensive.

Task 7. Jetty maintenance and siltation control	$ 450
Total	$3,470

FY-2005 Work: Same as FY-2004 (see above)

Net replacement will bring a new cycle of maintenance operations. A new MOU will be negotiated between CDOW and State Parks.

IX. Budget Summary:

Note: Cost of net replacement will be ~$100,000, including materials and labor.

FY-2004	$3,470 (Colorado contribution)
FY-2005	$3,470 (Colorado contribution)
Total	$6,940

X. Reviewers: Pat Nelson

XI. References: N/A